REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.114 and in light of the remarks which follow, are respectfully requested.

By the above amendments, new dependent claims 30-32 have been added which depend from claims 1, 2 and 6, respectively, and recite that the composite material is a mixture of particles or monoliths of active solid, and the micronodules. Support for such new claims can be found in the instant specification at least at page 6 lines 2-6. Entry of the foregoing amendments is proper at least because a Request for Continued Examination is being filed herewith. See 37 C.F.R. §1.114.

In the Official Action, claim 28 stands objected to under 37 C.F.R. §1.75(c). In response thereto, Applicants note that the active solid recited in claim 2 is not necessarily porous and/or microporous. For at least this reason, claim 28 further limits the subject matter of the claim from which it depends. Accordingly, withdrawal of the objection is respectfully requested.

Claims 1, 4, 5 and 7-27 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0054141 (*Worley et al*). Claims 2, 3 and 28 stand rejected under 35 U.S.C. §102(e) as being anticipated by *Worley et al*. Claims 6 and 29 stand rejected under 35 U.S.C. §102(e) as being anticipated by *Worley et al*. Withdrawal of these rejections is respectfully requested for at least the following reasons.

Independent claims 1, 2 and 6 each recites a composite material comprising an active solid and a phase change material.

It is well established that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). For an anticipation to exist, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Worley et al does not disclose each feature recited in independent claims 1, 2 and 6, and as such fails to constitute an anticipation of such claims. For example, *Worley et al* does not disclose a composite material comprising an active solid and a phase change material, wherein the active solid is selected from solids that can be used in a method involving reversible physicochemical processes that are exothermic in one direction and endothermic in the opposite direction, as recited in such claims. *Worley et al* has no disclosure of the active solid as is presently claimed.

Concerning such subject matter, the Patent Office has taken the position that the containment structure described in paragraphs [0043] and [0044] of *Worley et al* corresponds to the claimed active solid. See Official Action at page 3. Specifically, the Examiner has alleged that such containment structure comprises a porous and/or microporous solid that can be used in a reversible adsorption process.

However, *Worley et al* discloses that the containment structure is impregnated with the phase change material. See paragraph [0044]. *Worley et al* further discloses that "the containment structure may serve to reduce or prevent leakage of the phase change material from the coated particle during end use." Paragraph [0043]. That is, even if the containment structure materials can properly be considered as porous or microporous solids, *Worley et al* teaches that any such pores are impregnated with its

phase change material. Simply put, there is no explicit or implicit disclosure that the *Worley et al* article is capable of use in a method involving reversible physicochemical processes that are exothermic in one direction and endothermic in the opposite direction, as is the recited active solid.

As noted in Applicants' disclosure at pages 9 to 14, in exemplary aspects of the invention, the recited active solid can be used to adsorb another material, for example, a gas, in processes such as a pressure swing adsorption method, a gas storage method, or a method for extracting oxygen from air. Such examples further highlight the functionality of the claimed active solid in a method involving reversible physicochemical processes. By comparison, there is no recognition that the containment structure of *Worley et al* is an active solid that can be used in a reversible adsorption process; quite to the contrary, *Worley et al* discloses that its containment structure is already impregnated with the phase change material.

The Examiner has noted that in an exemplary embodiment disclosed in the present application, the composite material comprises a porous or microporous active solid, "the micronodules occupying the pores of the active solid." See Official Action at page 5. Applicants note that in the case of such exemplary embodiment, the active solid is nevertheless usable in a method involving reversible physicochemical processes that are exothermic in one direction and endothermic in the opposite direction. Thus, for example, in an exemplary embodiment in which the active solid comprises a porous and/or microporous solid that can be used in a reversible adsorption process (see, e.g., claim 4), at least some of the pores can be available for the reversible adsorption process. By comparison, *Worley et al* does not disclose that

its containment structure is usable in a reversible physicochemical process once its pores are occupied by the microcapsules of the phase change material.

For at least the above reasons, it is apparent that independent claims 1, 2 and 6 are not anticipated by *Worley et al.* Accordingly, withdrawal of the above rejection is respectfully requested.

Various dependent claims are further distinguishable from *Worley et al.* For example, dependent claim 3 which depends from claim 2, specifies that the reactive solid is selected from halides, carbonates or hydroxides. By comparison, *Worley et al* discloses that the temperature regulating material is selected from silica particles, zeolite particles, carbon particles, or an absorbent material impregnated with a phase change material. See paragraph [0044]. There is no disclosure that the temperature regulating material is selected from halides, carbonates or hydroxides, as recited in claim 3.

Furthermore, newly added claims 30-32 recite that the composite material is a mixture of particles or monoliths of active solid, and the micronodules. By comparison, and as discussed above, the containment structure of *Worley et al* is impregnated with the phase change material. There is no disclosure of a mixture of, on the one hand, particles or monoliths of active solid and, on the other hand, micronodules of phase change material.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: March 20, 2009 By: _____

Roger H. Lee
Registration No. 46317

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620